

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA2005/000069

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7:A61K 48/00; A61P 35/00; A61K 31/7088; A61K 31/522; A61K 31/517; A61K 31/513

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IPC7:A61K 48/00; A61P 35/00; A61K 31/7088; A61K 31/522; A61K 31/517; A61K 31/513

Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)

Canadian Patent Database, Delphion, NCBI, PubMed, STN, QPAT

Search terms: antisense, mesothelioma, thymidylate synthase, cancer

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9963114 A1 (ISIS PHARMACEUTICALS, INC.) 09.12.1999 Whole document	18-23
Y		1-17, 24-26
X	CA 2301957 A1 (ZENECA LIMITED, ISIS PHARMACEUTICALS) 01.04.1999 Whole document	18-23
Y		1-17, 24-26
X	FERGUSON PJ et al Antisense down-regulation of thymidylate synthase to suppress growth and enhance cytotoxicity of 5-FuR, 5-FU and Tomudex in HeLa cells. BRIT J PHARMACOL 1999 Vol 127, pages 1777-1786 Whole document	18-23
Y		1-17, 24-26

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

22 April 2005 (22-04-2005)

Date of mailing of the international search report

18 May 2005 (18-05-2005)

Name and mailing address of the ISA/CA  
Canadian Intellectual Property Office  
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**Box No. I**      **Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)**

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
  - a. type of material
    - ☒ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material
    - ☒ on paper
    - ☒ in electronic form
  - c. time of filing/furnishing
    - ☒ contained in the international application as filed.
    - ☒ filed together with the international application in electronic form
    - ☐ furnished subsequently to this Authority for the purposes of search.
2. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments :



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### Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of the first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons :

1. ☒ Claim Nos. : 1 to 26

because they relate to subject matter not required to be searched by this Authority, namely :

Although claims 1 to 26 encompass a method of treatment of the human/animal body which this Authority is not obliged to search under Rule 39.1(iv) of the PCT, the search has been carried out based on the alleged effects of the compounds referred to therein.

2. ☐ Claim Nos. :

because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically :

3. ☐ Claim Nos. :

because they are dependant claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows :

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claim Nos. :
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim Nos. :

**Remark on Protest** ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.



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International application No.  
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant	Relevant to claim No.
X	BERG RW et al The means to an end of tumor cell resistance to chemotherapeutic drugs targeting thymidylate synthase: shoot the messenger. CURR DRUG TARGETS 2002 Vol 3, pages 297-309 Whole document	18-24
Y		1-17, 25, 26
Y	BERG RW et al Tumor growth inhibition <i>in vivo</i> and G <sub>2</sub> /M cell cycle arrest induced by antisense oligodeoxynucleotide targeting thymidylate synthase. J PHARMACOL EXP THER 2001 Vol 298(2), pages 477-484 Whole document	1-26
Y	FERGUSON PJ et al Antisense-induced down-regulation of thymidylate synthase and enhanced cytotoxicity of 5-FUdR in 5-FUdR-resistant HeLa cells. BRIT J PHARMACOL 2001 Vol 134, pages 1437-1446 Whole document	1-26
Y	SCHMITZ JC ET AL Effect of 2'-O-methyl antisense ORNs on expression of thymidylate synthase in human colon cancer RKO cells. NUCLEIC ACIDS RES 2001 Vol 29(2), pages 415-422 Whole document	1-26



# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.  
PCT/CA2005/000069

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
WO 9963114 A1	09-12-1999	AU4224999 A	20-12-1999
		US6087489 A	11-07-2000

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CA 2301957 A1	01-04-1999	AU9090498 A	12-04-1999
		EP1017800 A1	12-07-2000
		GB9720107D D0	19-11-1997
		GB9722012D D0	17-12-1997
		GB9812140D D0	05-08-1998
		JP2001517681T T	09-10-2001
		WO9915648 A1	01-04-1999

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